Account No. 11002 OPTIMIZE ANODE/CATHODE MATERIALS

SUMMARY

This work was initiated in 1982 and is currently based on optimization of anode paste formulations within the context of each aluminum smelting plant. Industry experience has shown that maximizing coke vibrated dry bulk density and optimizing pitching level to achieve maximum baked anode density has significantly improved operating anode performance. The plan is to complete work on these projects by the end of 1983.

PROGRAM OBJECTIVES

- Determine the optimum anode paste formulation for each plant to:
  - -- Reduce the anode paste consumption at Columbia Falls by 0.04 lb paste/lb aluminum.
  - -- Reduce the baked anode consumption at Sebree by 0.01 lb anode/lb aluminum.
  - -- Reduce the anode voltage drop at columbia Falls by 100 mV/pot.
  - -- Reduce the anode voltage drop at Sebree by 30 mV.

1983 SPECIFIC OBJECTIVES

- Maximize vibrated dry bulk densities for selected coke types.
- Optimize the pitching levels of coke aggregates.
- Make recommendations for anode formulation at each plant.

PROGRESS TO DATE

- Maximum VDBD formulations using ARCO coke have been determined for the Columbia Falls context.

KEY ISSUES

- Scope of projects reduced from original proposals because of budget reductions.

Account No. 11002 (Continued)

Key Issues (Continued)

- o Total carbon human resources at Tucson required to complete these projects on time (i.e., no flexibility to take on other major carbon projects in 1983).

- o Projects are currently one month behind schedule because of extended work on the Ashland pitch project.

FINANCIAL STATUS

1983 Budget Allocation	80M
Prior Spending	?
1984 Projected Requirement	100M